

# SEQUENCE LISTING

<110> Nolan, Garry P.

Rozinov, Michael N.

<120> Fluorescent Dye Binding Peptides

<130> A65681-1/DJB/RMS/DSS

<140> 09/419,381

<141> 1999-10-15

<150> 60/104,465

<151> 1998-10-16

<160> 122

<170> PatentIn Ver. 2.0

<210> 1

<211> 12

<212> PRT

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<220>

<223> Description of Artificial Sequence: synthetic

<400> 1

Lys His Val Gln Tyr Trp Thr Gln Met Phe Tyr Ser

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<400> 2

Asp Phe Leu Gln Trp Lys Leu Ala Arg Gln Lys Pro

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<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 3

Ile Pro His Pro Pro Met Tyr Trp Thr Arg Val Phe

1

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<210> 4

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 4

His Gly Trp Asp Tyr Tyr Trp Asp Trp Thr Ala Trp

1

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<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 5

Ala Ser Asp Tyr Trp Asp Trp Glu Trp Tyr Tyr Ser

1

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<210> 6

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 6

Tyr Pro Asn Asp Phe Glu Trp Trp Glu Tyr Tyr Phe

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<210> 7  
<211> 12  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic

<400> 7  
His Thr Ser His Ile Ser Trp Pro Pro Trp Tyr Phe  
1 5 10

<210> 8  
<211> 12  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic

<400> 8  
Leu Glu Pro Arg Trp Gly Phe Gly Trp Trp Leu Lys  
1 5 10

<210> 9  
<211> 12  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic

<400> 9  
Gln Tyr Tyr Gly Trp Tyr Tyr Asp His Asn Phe Trp  
1 5 10

<210> 10  
<211> 12  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic

<400> 10

Tyr Met Tyr Asp Glu Tyr Gln Tyr Trp Asn Phe Trp

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<210> 11

<211> 12

<212> PRT

<213> Artificial Sequence

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<400> 11

Trp Tyr Asp Asp Trp Asn Asp Trp His Ala Trp Pro

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<210> 12

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 12

Trp His Met Ser Pro Ser Trp Gly Trp Gly Tyr Trp

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<210> 13

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

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<400> 13

His Met Ser Trp Trp Glu Phe Tyr Leu Val Pro Pro

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<210> 14

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 14

Tyr Trp Asp Tyr Ser Trp His Tyr Tyr Ala Pro Thr  
1 5 10

<210> 15

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 15

Lys Pro Val Gln Tyr Trp Thr Gln Met Phe Tyr Thr  
1 5 10

<210> 16

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

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<400> 16

Lys Pro Ala Gln Tyr Trp Thr Gln Met Phe Tyr Ser  
1 5 10

<210> 17

<211> 12

<212> PRT

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<223> Description of Artificial Sequence: synthetic

<400> 17

Lys Asn Val Gln Tyr Trp Thr Gln Met Phe Tyr Thr  
1 5 10

<210> 18  
<211> 12  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 18

Lys His Val Gln Tyr Trp Thr His Met Phe Tyr Thr

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<210> 19

<211> 12

<212> PRT

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<220>

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<400> 19

Lys His Val Gln Tyr Trp Thr Gln Met Phe Tyr Thr

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<210> 20

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 20

Asn His Val His Tyr Trp Thr Gln Met Phe Tyr Ser

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<210> 21

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 21

Thr His Val Gln Tyr Trp Thr Gln Met Phe Tyr Ser  
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<210> 22

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 22

Ile Pro His Arg Pro Met Tyr Trp Thr Pro Val Phe  
1 5 10

<210> 23

<211> 12

<212> PRT

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<400> 23

Leu Pro His Pro Pro Met Tyr Trp Thr Arg Val Phe  
1 5 10

<210> 24

<211> 12

<212> PRT

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<213> Artificial Sequence

<400> 24

His Glu Trp Glu Tyr Tyr Trp Asp Trp Thr Ala Trp  
1 5 10

<210> 25

<211> 12

<212> PRT

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<220>

<223> Description of Artificial Sequence: synthetic

<400> 25

His Glu Trp Asp Tyr Tyr Trp Asp Trp Thr Ala Trp  
1 5 10

<210> 26

<211> 12

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: synthetic

<400> 26

His Gly Trp Asp Tyr Tyr Trp Asp Trp Thr Asp Trp  
1 5 10

<210> 27

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 27

His Gly Trp Asp Tyr Tyr Trp Asp Trp Pro Thr Trp  
1 5 10

<210> 28

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 28

His Gly Trp Asp Tyr Tyr Trp Asp Trp Thr Thr Trp  
1 5 10

<210> 29



<211> 12  
<212> PRT  
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<220>  
<223> Description of Artificial Sequence: synthetic

<400> 29  
His Gly Trp Asp Tyr Asn Trp Asp Trp Thr Ala Trp  
1 5 10

<210> 30  
<211> 12  
<212> PRT  
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<220>  
<223> Description of Artificial Sequence: synthetic

<400> 30  
Gln Gly Trp Asp Tyr Tyr Trp Asp Trp Thr Ala Trp  
1 5 10

<210> 31  
<211> 12  
<212> PRT  
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<220>  
<223> Description of Artificial Sequence: synthetic

<400> 31  
Tyr Pro Asn Glu Phe Asp Trp Trp Asp Tyr Tyr Tyr  
1 5 10

<210> 32  
<211> 12  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic

<400> 32  
Tyr Pro Asn Asp Phe Glu Trp Trp Asp Tyr Tyr Tyr

1

5

10

&lt;210&gt; 33

&lt;211&gt; 12

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: synthetic

&lt;400&gt; 33

Tyr His Asn Asp Tyr Glu Trp Trp Glu Tyr Tyr Tyr

1

5

10

&lt;210&gt; 34

&lt;211&gt; 12

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: synthetic

&lt;400&gt; 34

Tyr Pro Asn Asp Phe Glu Trp Trp Glu Tyr Tyr Tyr

1

5

10

&lt;210&gt; 35

&lt;211&gt; 12

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: synthetic

&lt;400&gt; 35

Tyr Pro Asn Asp Phe Asp Trp Trp Glu Tyr Tyr Leu

1

5

10

&lt;210&gt; 36

&lt;211&gt; 12

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: synthetic

<400> 36

Tyr Thr His Asp Tyr Glu Trp Trp Glu Tyr Tyr Phe  
1 5 10

<210> 37

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 37

Tyr Pro Asn Asp Tyr Glu Trp Trp Glu Tyr Tyr Phe  
1 5 10

<210> 38

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 38

Tyr Pro Asp Ser Phe Glu Trp Trp Glu Tyr Tyr Phe  
1 5 10

<210> 39

<211> 11

<212> PRT

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<220>

<223> Description of Artificial Sequence: synthetic

<400> 39

Tyr His Asp Phe Glu Trp Trp Glu Tyr Tyr Phe  
1 5 10

<210> 40

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 40

Tyr Pro Tyr Asp Phe Glu Trp Trp Glu Tyr Tyr Met  
1 5 10

<210> 41

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 41

Lys His Val Gln Tyr Trp Thr Gln Met Phe Tyr Ser Gly Gly Gly Ser  
1 5 10 15

Ala Glu Thr Val Gly Gly Gly His His His His His His  
20 25

<210> 42

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 42

Lys Pro Val Gln Tyr Trp Thr Gln Met Phe Tyr Thr Gly Gly Gly Ser  
1 5 10 15 20 25 30 35 40 45

Ala Glu Thr Val Gly Gly Gly His His His His His His His His His His  
20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95

<210> 43

<211> 29

<212> PRT

<213> Artificial Sequence



<220>

<223> Description of Artificial Sequence: synthetic

<400> 46

Tyr Pro Asn Asp Phe Glu Trp Trp Glu Tyr Tyr Phe Gly Gly Gly Ser  
1 5 10 15

Ala Glu Thr Val Gly Gly Gly His His His His His His  
20 25

<210> 47

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 47

Tyr Pro Asn Glu Phe Asp Trp Trp Asp Tyr Tyr Tyr Gly Gly Gly Ser  
1 5 10 15

Ala Glu Thr Val Gly Gly Gly His His His His His His  
20 25

<210> 48

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 48

Ala Ser Gly Ser Gly Ala Ser Gly Ser Ala Gly Ser Gly Gly Gly Ser  
1 5 10 15

Ala Glu Thr Val Gly Gly Gly His His His His His His  
20 25

<210> 49

<211> 60

<212> PRT

<213> Artificial Sequence

<220>  
 <221> UNSURE  
 <222> (28) .. (33)  
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 amino acid residue.

<220>  
 <223> Description of Artificial Sequence: synthetic

<400> 49  
 Met Gly Cys Ala Ala Leu Glu Ser Glu Val Ser Ala Leu Glu Ser Glu  
 1 5 10 15  
 Val Ala Ser Leu Glu Ser Glu Val Ala Ala Leu Xaa Xaa Xaa Xaa Xaa  
 20 25 30  
 Xaa Leu Ala Ala Val Lys Ser Lys Leu Ser Ala Val Lys Ser Leu Ala  
 35 40 45  
 Ser Val Lys Ser Lys Leu Ala Ala Cys Gly Pro Pro  
 50 55 60

<210> 50  
 <211> 67  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: synthetic

<400> 50  
 Met Gly Arg Asn Ser Gln Ala Thr Ser Gly Phe Thr Phe Ser His Phe  
 1 5 10 15  
 Tyr Met Glu Trp Trp Arg Gly Gly Glu Tyr Ile Ala Ala Ser Arg His  
 20 25 30  
 Lys His Asn Lys Tyr Thr Thr Glu Tyr Ser Ala Ser Val Lys Gly Arg  
 35 40 45  
 Tyr Ile Val Ser Arg Asp Thr Ser Gln Ser Ile Leu Tyr Gln Lys Lys  
 50 55 60  
 Gly Pro Pro  
 65

<210> 51  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 51

Ser Lys Val Ile Leu Phe

1 5

<210> 52

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 52

Ser Lys Val Ile Leu Phe Glu

1 5

<210> 53

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 53

Ser Lys Val Ile Leu Phe Asp

1 5

<210> 53

<211> 7

<212> PRT

<210> 54

<211> 7

<212> PRT

<213> Monkey virus

<400> 54

Pro Lys Lys Lys Arg Lys Val

1 5



<210> 55  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 55  
Ala Arg Arg Arg Arg Pro  
1 5

<210> 56  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic

<400> 56  
Glu Glu Val Gln Arg Lys Arg Gln Lys Leu  
1 5 10

<210> 57  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic

<400> 57  
Glu Glu Lys Arg Lys Arg Thr Tyr Glu  
1 5

<210> 58  
<211> 20  
<212> PRT  
<213> Xenopus

<400> 58  
Ala Val Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys  
1 5 10 15

Lys Lys Leu Asp  
20

<210> 59  
<211> 31  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic

<400> 59  
Met Ala Ser Pro Leu Thr Arg Phe Leu Ser Leu Asn Leu Leu Leu Leu  
1 5 10 15

Gly Glu Ser Ile Leu Gly Ser Gly Glu Ala Lys Pro Gln Ala Pro  
20 25 30

<210> 60  
<211> 21  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic

<400> 60  
Met Ser Ser Phe Gly Tyr Arg Thr Leu Thr Val Ala Leu Phe Thr Leu  
1 5 10 15

Ile Cys Cys Pro Gly  
20

<210> 61  
<211> 51  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic

<400> 61  
Pro Gln Arg Pro Glu Asp Cys Arg Pro Arg Gly Ser Val Lys Gly Thr  
1 5 10 15

Gly Leu Asp Phe Ala Cys Asp Ile Tyr Ile Trp Ala Pro Leu Ala Gly  
20 25 30

Ile Cys Val Ala Leu Leu Leu Ser Leu Ile Ile Thr Leu Ile Cys Tyr  
 35 40 45

His Ser Arg  
 50

<210> 62  
 <211> 33  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: synthetic

<400> 62  
 Met Val Ile Ile Val Thr Val Val Ser Val Leu Leu Ser Leu Phe Val  
 1 5 10 15

Thr Ser Val Leu Leu Cys Phe Ile Phe Gly Gln His Leu Arg Gln Gln  
 20 25 30

Arg

<210> 63  
 <211> 35  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: synthetic

<400> 63  
 Pro Asn Lys Gly Ser Gly Thr Thr Ser Gly Thr Thr Arg Leu Leu Ser  
 1 5 10 15 20

Gly His Cys Phe Thr Leu Thr Gly Leu Leu Gly Thr Val Thr Met Gly  
 20 25 30

Leu Leu Thr  
 35

<210> 64  
 <211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 64

Met Gly Ser Ser Lys Ser Lys Pro Lys Asp Pro Ser Gln Arg  
1 5 10

<210> 65

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 65

Leu Leu Gln Arg Leu Phe Ser Arg Gln Asp Cys Cys Gly Asn Cys Ser  
1 5 10 15

Asp Ser Glu Glu Glu Leu Pro Thr Arg Leu  
20 25

<210> 66

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 66

Lys Gln Phe Arg Asn Cys Met Leu Thr Ser Leu Cys Cys Gly Lys Asn  
1 5 10 15 20 25

Pro Leu Gly Asp  
20

<210> 67

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 67

Leu Asn Pro Pro Asp Glu Ser Gly Pro Gly Cys Met Ser Cys Lys Cys  
1 5 10 15

Val Leu Ser

<210> 68

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 68

Lys Phe Glu Arg Gln  
1 5

<210> 69

<211> 36

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 69

Met Leu Ile Pro Ile Ala Gly Phe Phe Ala Leu Ala Gly Leu Val Leu  
1 5 10 15

Ile Val Leu Ile Ala Tyr Leu Ile Gly Arg Lys Arg Ser His Ala Gly  
20 25 30 35

Tyr Gln Thr Ile

35

<210> 70

<211> 35

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 70

Leu Val Pro Ile Ala Val Gly Ala Ala Leu Ala Gly Val Leu Ile Leu  
1 5 10 15

Val Leu Leu Ala Tyr Phe Ile Gly Leu Lys His His His Ala Gly Tyr  
20 25 30

Glu Gln Phe  
35

<210> 71

<211> 26

<212> PRT

<213> Yeast

<400> 71

Met Leu Arg Thr Ser Ser Leu Phe Thr Arg Arg Val Gln Pro Ser Leu  
1 5 10 15

Phe Ser Arg Asn Ile Leu Arg Gln Ser Thr  
20 25

<210> 72

<211> 25

<212> PRT

<213> Yeast

<400> 72

Met Leu Ser Leu Arg Gln Ser Ile Arg Phe Phe Lys Pro Ala Thr Arg  
1 5 10 15

Thr Leu Cys Ser Ser Arg Tyr Leu Leu  
20 25

<210> 73

<211> 64

<212> PRT

<213> Yeast

<400> 73

Met Phe Ser Met Leu Ser Lys Arg Trp Ala Gln Arg Thr Leu Ser Lys  
1 5 10 15

Ser Phe Tyr Ser Thr Ala Thr Gly Ala Ala Ser Lys Ser Gly Lys Leu  
20 25 30

Thr Gln Lys Leu Val Thr Ala Gly Val Ala Ala Ala Gly Ile Thr Ala  
35 40 45

Ser Thr Leu Leu Tyr Ala Asp Ser Leu Thr Ala Glu Ala Met Thr Ala  
50 55 60

<210> 74  
<211> 41  
<212> PRT  
<213> Yeast

<400> 74  
Met Lys Ser Phe Ile Thr Arg Asn Lys Thr Ala Ile Leu Ala Thr Val  
1 5 10 15

Ala Ala Thr Gly Thr Ala Ile Gly Ala Tyr Tyr Tyr Tyr Asn Gln Leu  
20 25 30

Gln Gln Gln Gln Gln Arg Gly Lys Lys  
35 40

<210> 75  
<211> 15  
<212> PRT  
<213> Adenovirus

<400> 75  
Leu Tyr Leu Ser Arg Arg Ser Phe Ile Asp Glu Lys Lys Met Pro  
1 5 10 15

<210> 76  
<211> 19  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic

<400> 76

Leu Asn Pro Pro Asp Glu Ser Gly Pro Gly Cys Met Ser Cys Lys Cys  
1 5 10 15

Val Leu Ser

<210> 77

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 77

Leu Thr Glu Pro Thr Gln Pro Thr Arg Asn Gln Cys Cys Ser Asn  
1 5 10 15

<210> 78

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 78

Arg Thr Ala Leu Gly Asp Ile Gly Asn  
1 5

<210> 79

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 79

Met Tyr Arg Met Gln Leu Leu Ser Cys Ile Ala Leu Ser Leu Ala Leu  
1 5 10 15

Val Thr Asn Ser

20



<210> 80  
<211> 29  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic

<400> 80  
Met Ala Thr Gly Ser Arg Thr Ser Leu Leu Leu Ala Phe Gly Leu Leu  
1 5 10 15

Cys Leu Pro Trp Leu Gln Glu Gly Ser Ala Phe Pro Thr  
20 25

<210> 81  
<211> 27  
<212> PRT  
<213> Preproinsulin

<400> 81  
Met Ala Leu Trp Met Arg Leu Leu Pro Leu Leu Ala Leu Leu Ala Leu  
1 5 10 15

Trp Gly Pro Asp Pro Ala Ala Ala Phe Val Asn  
20 25

<210> 82  
<211> 18  
<212> PRT  
<213> Influenza

<400> 82  
Met Lys Ala Lys Leu Leu Val Leu Leu Tyr Ala Phe Val Ala Gly Asp  
1 5 10 15

Gln Ile  
20 25

<210> 83  
<211> 24  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 83

Met Gly Leu Thr Ser Gln Leu Leu Pro Pro Leu Phe Phe Leu Leu Ala  
1 5 10 15

Cys Ala Gly Asn Phe Val His Gly  
20

<210> 84

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<221> UNSURE

<222> (3)..(10)

<223> The x at positions 3 through 10 represents a  
fluorotte of any amino acid.

<220>

<223> Description of Artificial Sequence: synthetic

<400> 84

Met Gly Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Gly Pro Pro  
1 5 10

<210> 85

<211> 2

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 85

Gly Ser  
1

<210> 86

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 86

Gly Ser Gly Gly Ser

1

5

<210> 87

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 87

Gly Gly Gly Ser

1

<210> 88

<211> 90

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 88

ctccccttcg gccgaacctc caccagaata aaacatctgc gtccaatact gcacatgctt 60  
agagtggagaa tagaaaggta ccactctccc 90

<210> 89

<211> 90

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 89

ctccccttcg gccgaacctc caccaaacac acgagtccaa tacataggag gatgcggaat 60  
agagtggagaa tagaaaggta ccactctccc 90

<210> 90

<211> 90

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 90

Cys Thr Cys Cys Cys Cys Thr Thr Cys Gly Gly Cys Cys Gly Ala Ala  
1 5 10 15

Cys Cys Thr Cys Cys Ala Cys Cys Ala Ala Ala Thr Ala Ala Thr  
20 25 30

Ala Cys Thr Cys Cys Cys Ala Cys Cys Ala Cys Thr Cys Ala Ala Ala  
35 40 45

Ala Thr Cys Ala Thr Thr Cys Gly Gly Ala Thr Ala Ala Gly Ala Gly  
50 55 60

Thr Gly Ala Gly Ala Ala Thr Ala Gly Ala Ala Ala Gly Gly Thr Ala  
65 70 75 80

Cys Cys Ala Cys Thr Cys Thr Cys Cys Cys  
85 90

<210> 91

<211> 90

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 91

ctcccttcg gccgaacctc caccccaagc agtccaatcc caataataat cccacccatg 60  
agagtgagaa tagaaaggta ccactctccc 90

<210> 92

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 92

gggagagtgg tacctttcta ttctcac

27

<210> 93  
<211> 42  
<212> PRT  
<213> Artificial Sequence

<220>  
<221> UNSURE  
<222> (15)..(27)  
<223> The x at positions 15 through 27 represents any amino acid.

<220>  
<223> Description of Artificial Sequence: synthetic

<400> 93  
Gly Gly Gly Ser Lys Val Ile Leu Phe Glu Gly Pro Ala Gly Xaa Xaa  
1 5 10 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Ala Pro Gly Ser  
20 25 30

Lys Val Ile Leu Phe Glu Gly Gly Pro Gly  
35 40

<210> 94  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic

<400> 94  
Gly Pro Ala Gly  
1

<210> 98

<211> 38

<212> PRT

<213> Artificial Sequence

<210> 95

<211> 4

<212> PRT

<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic

<400> 95

Gly Ala Pro Gly

1

<210> 96

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 96

Gly Gly Pro Gly

1

<210> 97

<211> 42

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 97

Gly Gly Gly Ser Lys Val Ile Leu Phe Glu Gly Pro Ala Gly Arg Thr

1

5

10

15

Ile Trp Glu Pro Lys Glu Ala Ser Asn His Thr Gly Ala Pro Gly Ser

20

25

30

Lys Val Ile Leu Phe Glu Gly Gly Pro Gly

35

40

<210> 98

<211> 38

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 98

Gly Gly Gly Ser Lys Val Ile Leu Phe Glu Gly Pro Ala Gly Trp Ser

1

5

10

15

Lys Met Gly His Thr Val Thr Gly Ala Pro Gly Ser Lys Val Ile Leu  
20 25 30

Phe Glu Gly Gly Pro Gly  
35

<210> 99

<211> 38

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 99

Gly Gly Gly Ser Lys Val Ile Leu Phe Glu Gly Pro Ala Gly Arg Trp  
1 5 10 15

Thr Trp Glu Pro Ile Ser Glu Gly Ala Pro Gly Ser Lys Val Ile Leu  
20 25 30

Phe Glu Gly Gly Pro Gly  
35

<210> 100

<211> 42

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 100

Gly Gly Gly Ser Lys Val Ile Leu Phe Glu Gly Pro Ala Gly Gly Asn  
1 5 10 15

Gln Lys Cys Leu Gln His Asn Arg Cys Ser Thr Gly Ala Pro Gly Ser  
20 25 30

Lys Val Ile Leu Phe Glu Gly Gly Pro Gly  
35 40

<210> 101

<211> 38

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 101

Gly Gly Gly Ser Lys Val Ile Leu Phe Glu Gly Pro Ala Gly Ser Gln  
1 5 10 15

Thr Trp Ser Phe Pro Glu His Gly Ala Pro Gly Ser Lys Val Ile Leu  
20 25 30

Phe Glu Gly Gly Pro Gly  
35

<210> 102

<211> 42

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 102

Gly Gly Gly Ser Lys Val Ile Leu Phe Glu Gly Pro Ala Gly Glu Pro  
1 5 10 15

Met Ala Arg Pro Trp Glu Arg Lys Gln Asp Arg Gly Ala Pro Gly Ser  
20 25 30

Lys Val Ile Leu Phe Glu Gly Gly Pro Gly  
35 40

<210> 103

<211> 42

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 103

Gly Gly Gly Ser Lys Val Ile Leu Phe Glu Gly Pro Ala Gly Gly Thr  
1 5 10 15

Leu Ser Ala Thr Arg Pro Tyr Gly Arg Gln Trp Gly Ala Pro Gly Ser



Lys Val Ile Leu Phe Glu Gly Gly Pro Gly  
 35 40

<210> 104

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<221> UNSURE

<222> (2)..(3)

<223> The x at positions 2 and 3 represents any amino acid.

<220>

<223> Description of Artificial Sequence: synthetic

<400> 104

Arg Xaa Xaa Trp Glu Pro  
 1 5

<210> 105

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 105

Arg Thr Ile Trp Glu Pro Lys Glu Ala Ser Asn His Thr  
 1 5 10

<210> 106

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 106

Trp Ser Lys Met Gly His Thr Val Thr

<210> 107

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 107

Arg Trp Thr Trp Glu Pro Ile Ser Glu

1

5

<210> 108

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 108

Gly Asn Gln Lys Cys Leu Gln His Asn Arg Cys Ser Thr

1

5

10

<210> 109

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 109

Ser Gln Thr Trp Ser Phe Pro Glu His

1

5

<210> 110

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 110

Glu Pro Met Ala Arg Pro Trp Glu Arg Lys Gln Asp Arg  
1 5 10

<210> 111

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 111

Gly Leu Thr Ser Ala Thr Arg Pro Tyr Gly Arg Gln Trp  
1 5 10

<210> 112

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<221> UNSURE

<222> (7)

<223> The x at position 7 represents either Glutamic  
acid or Aspartic acid.

<220>

<221> UNSURE

<222> (8) .. (15)

<223> The x at positions 8 through 15 represents any  
amino acid.

<220>

<221> UNSURE

<222> (22)

<223> The x at position 22 represents either Glutamic  
acid or Aspartic acid.

<220>

<223> Description of Artificial Sequence: synthetic

<400> 112

Ser Lys Val Ile Leu Phe Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Ser

Lys Val Ile Leu Phe Xaa

20

<210> 113

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 113

Tyr Trp Asp Trp

1

<210> 114

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<221> UNSURE

<222> (2)

<223> The x at position 2 represents either Aspartic acid or Glutamic acid.

<220>

<223> Description of Artificial Sequence: synthetic

<400> 114

Trp Xaa Tyr Tyr

1

<210> 115

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 115

Cys Cys Cys Thr Cys Ala Thr Ala Gly Thr Thr Ala Gly Cys Gly Thr

Ala Ala Cys Gly

20

<210> 116

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<221> UNSURE

<222> (1)

<223> The xaa at position 1 represents either Lysine,  
Asparagine or Threonine.

<220>

<221> UNSURE

<222> (2)

<223> The xaa at position 2 represents either Histidine,  
Proline or Asparagine.

<220>

<221> UNSURE

<222> (3)

<223> The xaa at position 3 represents either Alanine or  
Valine.

<220>

<221> UNSURE

<222> (4)

<223> The xaa at position 4 represents either Histidine  
or Glutamine.

<220>

<221> UNSURE

<222> (8)

<223> The xaa at position 8 represents either Histidine  
or Glutamine.

<220>

<221> UNSURE

<222> (12)

<223> The xaa at position 12 represents either Serine or  
Threonine.

<220>

<223> Description of Artificial Sequence: synthetic

<400> 116

Xaa Xaa Xaa Xaa Tyr Trp Thr Xaa Met Phe Tyr Xaa  
1 5 10

<210> 117

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<221> UNSURE

<222> (1)

<223> The xaa at position 1 represents either Isoleucine  
or Leucine.

<220>

<221> UNSURE

<222> (4)

<223> The xaa at position 4 represents either Proline or  
Arginine.

<220>

<221> UNSURE

<222> (10)

<223> The xaa at position 10 represents either Proline  
or Arginine.

<220>

<223> Description of Artificial Sequence: synthetic

<400> 117

Xaa Pro His Xaa Pro Met Tyr Trp Thr Xaa Val Phe  
1 5 10

<210> 118

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<221> UNSURE

<222> (1)

<223> The xaa at position 1 represents either Histidine  
or Glutamine.



Asparagine, Serine or Tyrosine.

<220>

<221> UNSURE

<222> (4)

<223> The xaa at position 4 represents either Aspartic acid or Glutamic acid.

<220>

<221> UNSURE

<222> (5)

<223> The xaa at position 5 represents either Phenylalanine or Tyrosine.

<220>

<221> UNSURE

<222> (6)

<223> The xaa at position 6 presents either Aspartic acid or Glutamic acid.

<220>

<221> UNSURE

<222> (9)

<223> The xaa at position 9 represents either Aspartic acid or Glutamic acid.

<220>

<221> UNSURE

<222> (12)

<223> The xaa at position 12 represents either Phenylalanine, Leucine, Methionine or Tyrosine.

<220>

<223> Description of Artificial Sequence: synthetic

<400> 119

Tyr Xaa Xaa Xaa Xaa Xaa Trp Trp Xaa Tyr Tyr Xaa

1

5

10

<210> 120

<211> 48

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic



<400> 120

Gly Gly Gly Ser Lys Val Ile Leu Phe Glu Gly Pro Ala Gly Arg Thr

1

5

10

15

Ile Trp Glu Pro Lys Glu Ala Ser Asn His Thr Gly Ala Pro Gly Ser

20

25

30

Lys Val Ile Leu Phe Glu Gly Gly Pro Gly His His His His His His

35

40

45

<210> 121

<211> 44

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 121

Gly Gly Gly Ser Lys Val Ile Leu Phe Glu Gly Pro Ala Gly Arg Trp

1

5

10

15

Thr Trp Glu Pro Ile Ser Glu Gly Ala Pro Gly Ser Lys Val Ile Leu

20

25

30

Phe Glu Gly Gly Pro Gly His His His His His His

35

40

<210> 122

<211> 44

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 122

Gly Gly Gly Ser Lys Val Ile Leu Phe Glu Gly Pro Ala Gly Ser Gly

1

5

10

15

Ser Ala Gly Ser Gly Ala Ser Gly Ala Pro Gly Ser Lys Val Ile Leu

20

25

30

Phe Glu Gly Gly Pro Gly His His His His His His

35

40